FIG.1

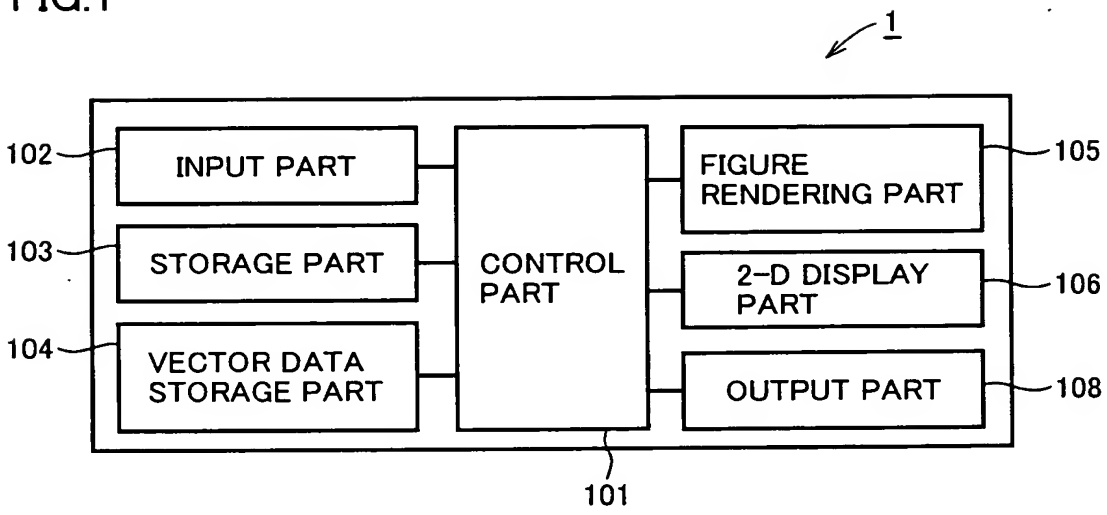

1
102
INPUT PART
103
STORAGE PART
104
VECTOR DATA STORAGE PART
CONTROL PART
FIGURE RENDERING PART
105
2-D DISPLAY PART
106
OUTPUT PART
108
101

FIG.2

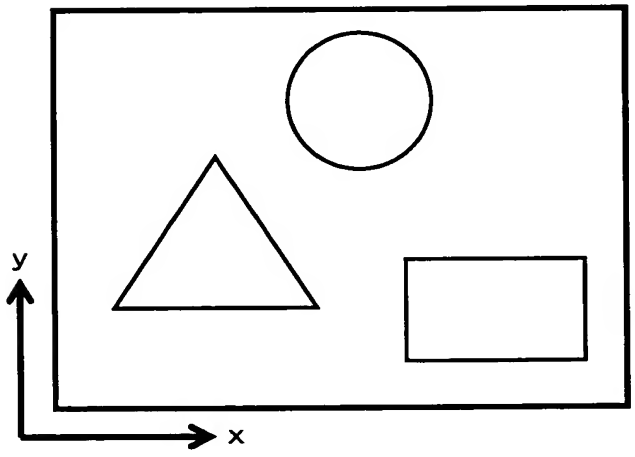

y
x

FIG.3

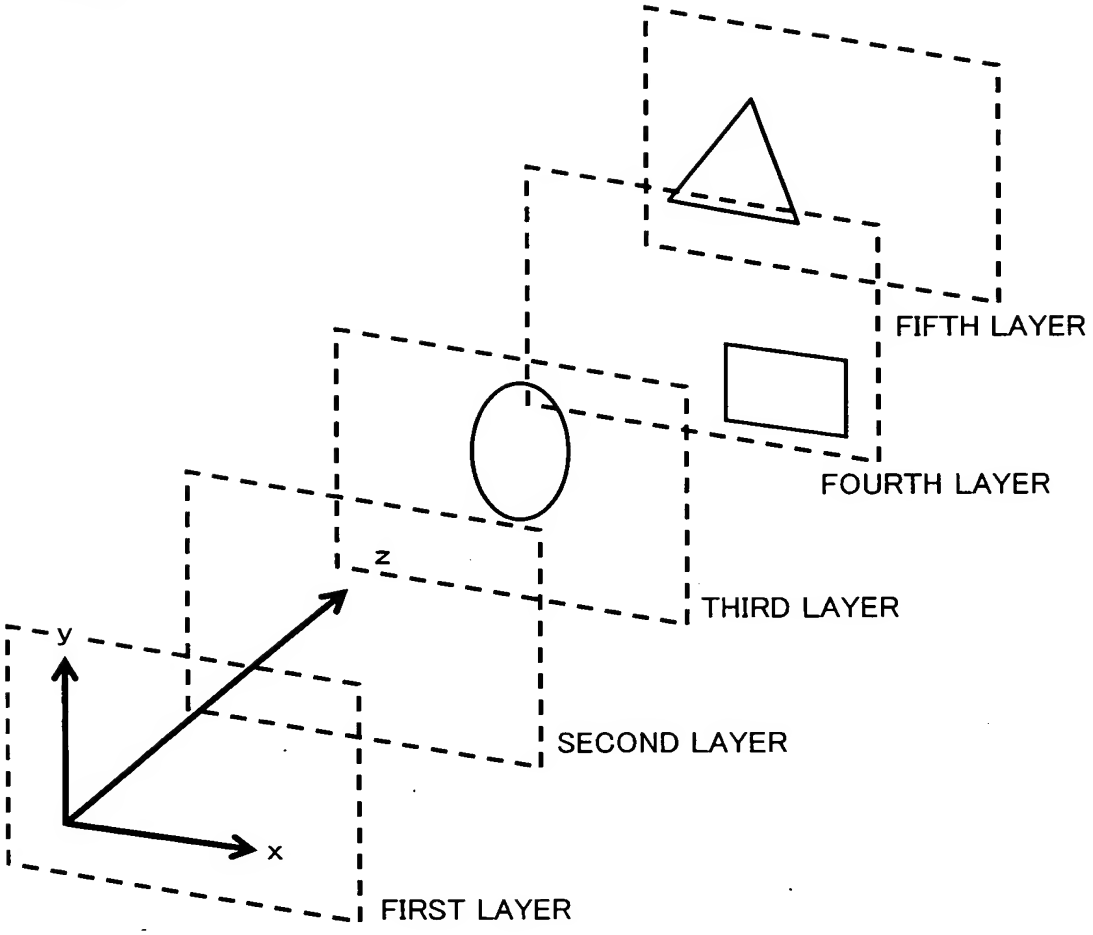

FIFTH LAYER
FOURTH LAYER
THIRD LAYER
SECOND LAYER
FIRST LAYER
z
y
x

FIG.4

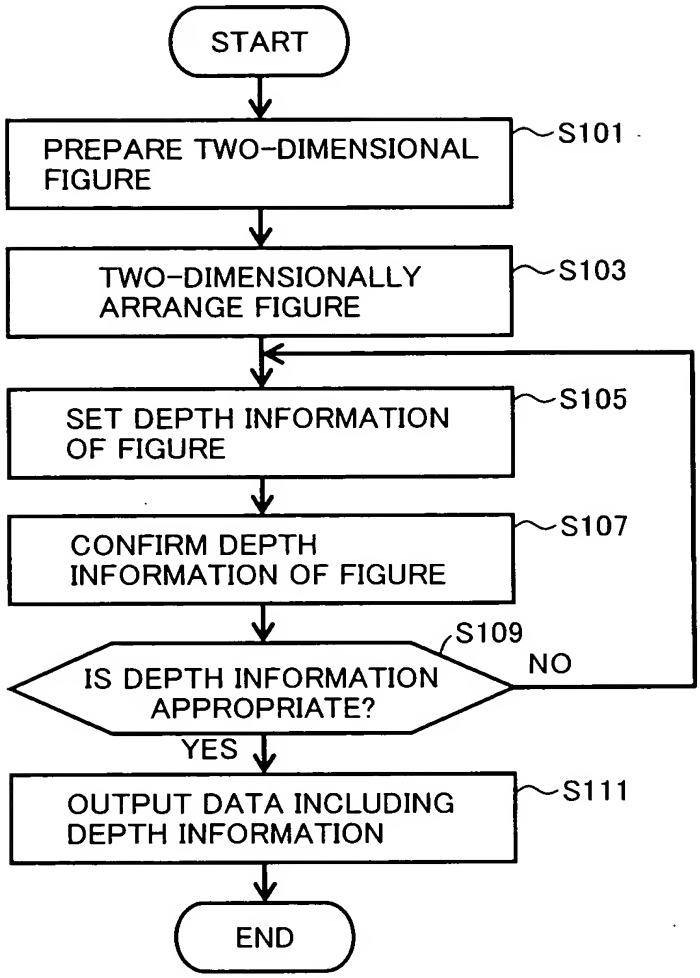

START
PREPARE TWO-DIMENSIONAL FIGURE
S101
TWO-DIMENSIONALLY ARRANGE FIGURE
S103
SET DEPTH INFORMATION OF FIGURE
S105
CONFIRM DEPTH INFORMATION OF FIGURE
S107
S109
IS DEPTH INFORMATION APPROPRIATE?
NO
YES
OUTPUT DATA INCLUDING DEPTH INFORMATION
S111
END

FIG.5

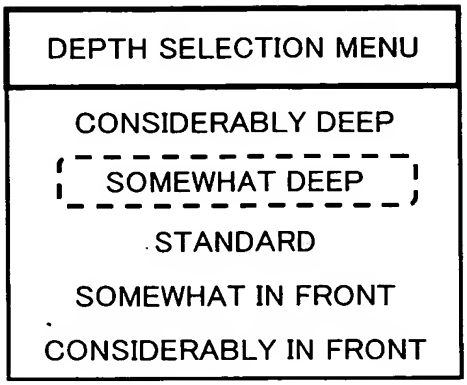


FIG.6

	DATA VALUE
CONSIDERABLY DEEP	−100
SOMEWHAT DEEP	−50
STANDARD	0
SOMEWHAT IN FRONT	50
CONSIDERABLY IN FRONT	100

FIG.7

OBJECT	CIRCLE
DEEPNESS INFORMATION	0
PLANE POSITION INFORMATION	(X、Y)
⋮	⋮
ACTIVE FLAG	1

FIG.8

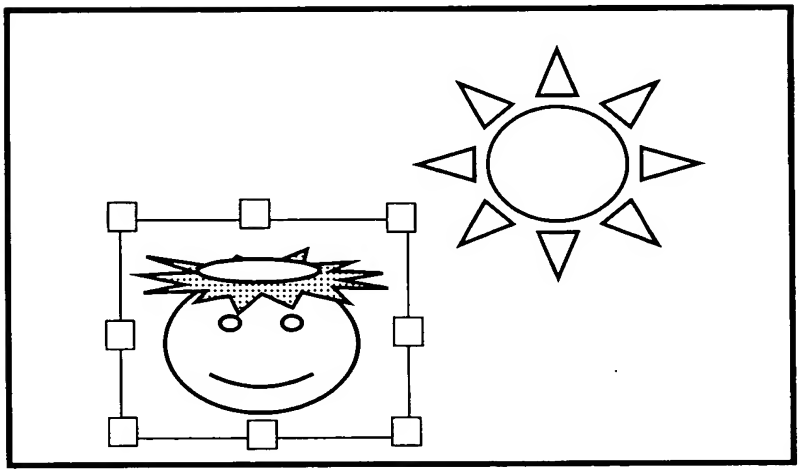


FIG.9

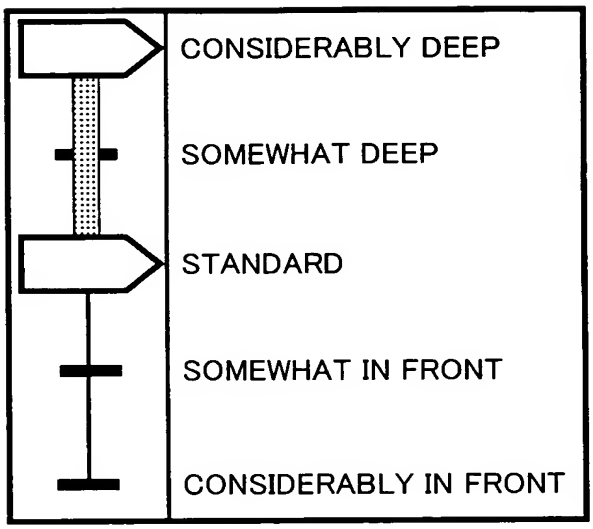

CONSIDERABLY DEEP
SOMEWHAT DEEP
STANDARD
SOMEWHAT IN FRONT
CONSIDERABLY IN FRONT

FIG.10

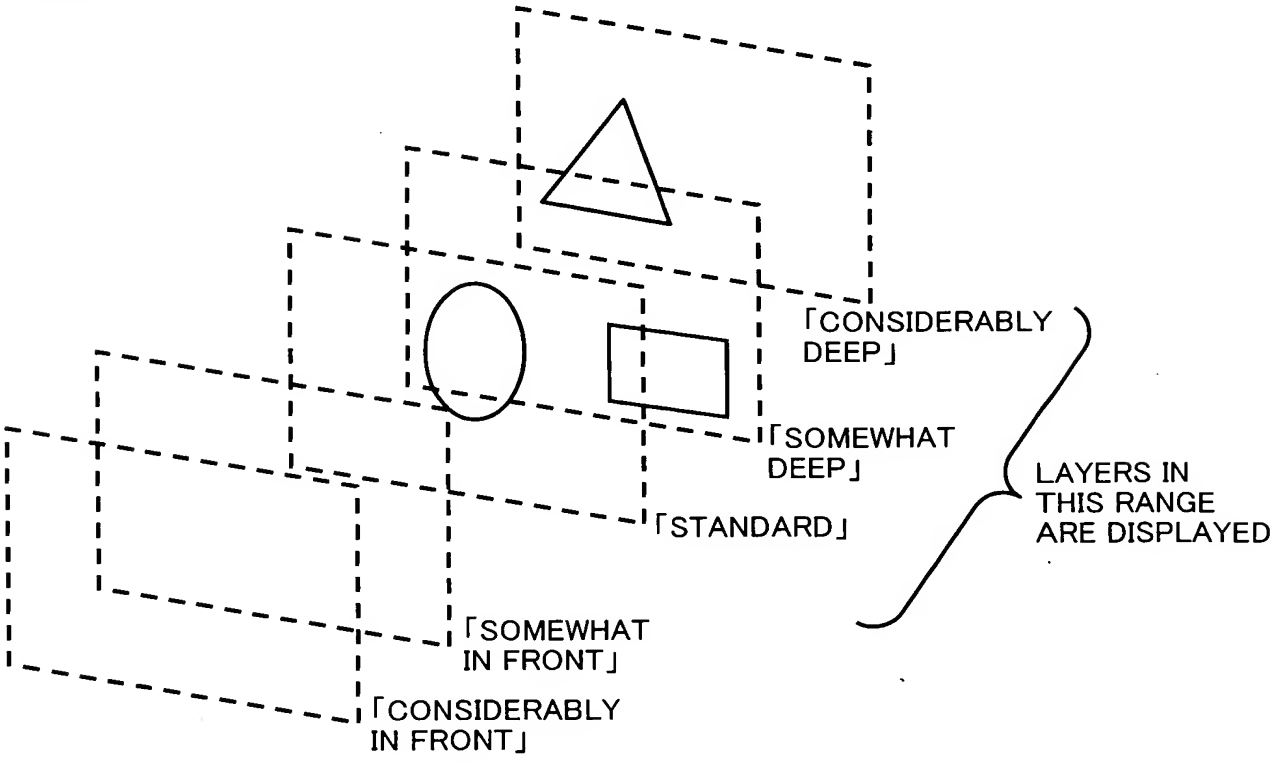

「CONSIDERABLY DEEP」
「SOMEWHAT DEEP」
「STANDARD」
「SOMEWHAT IN FRONT」
「CONSIDERABLY IN FRONT」
LAYERS IN THIS RANGE ARE DISPLAYED

FIG.11

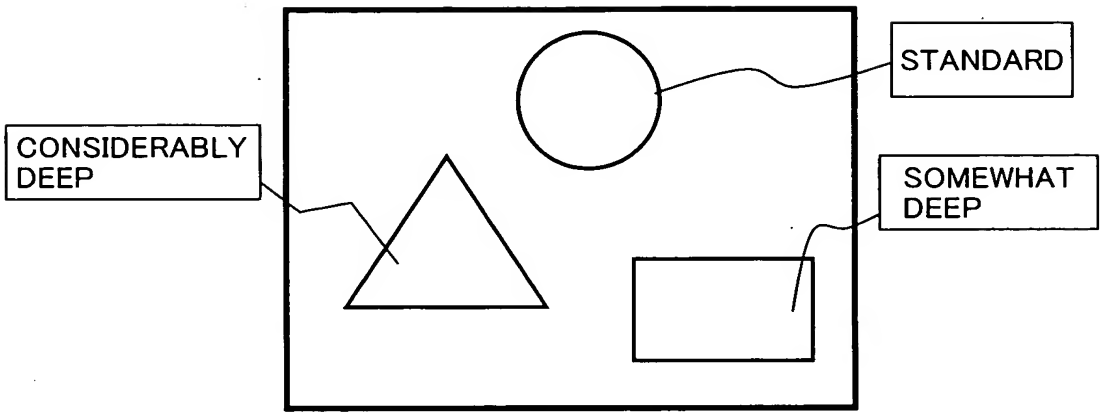

STANDARD
CONSIDERABLY DEEP
SOMEWHAT DEEP

FIG.12

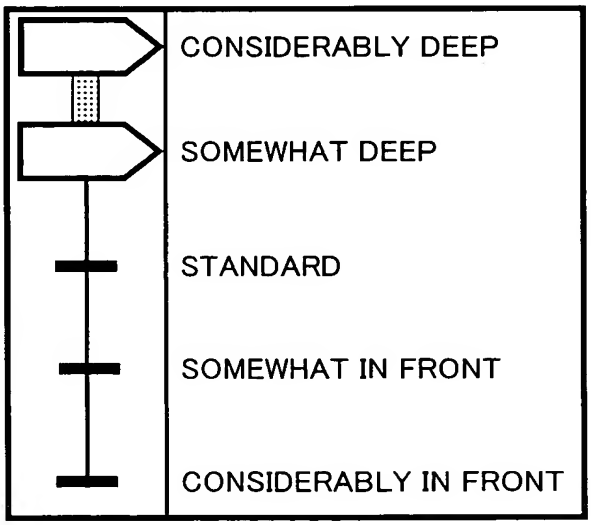

CONSIDERABLY DEEP
SOMEWHAT DEEP
STANDARD
SOMEWHAT IN FRONT
CONSIDERABLY IN FRONT

FIG.13

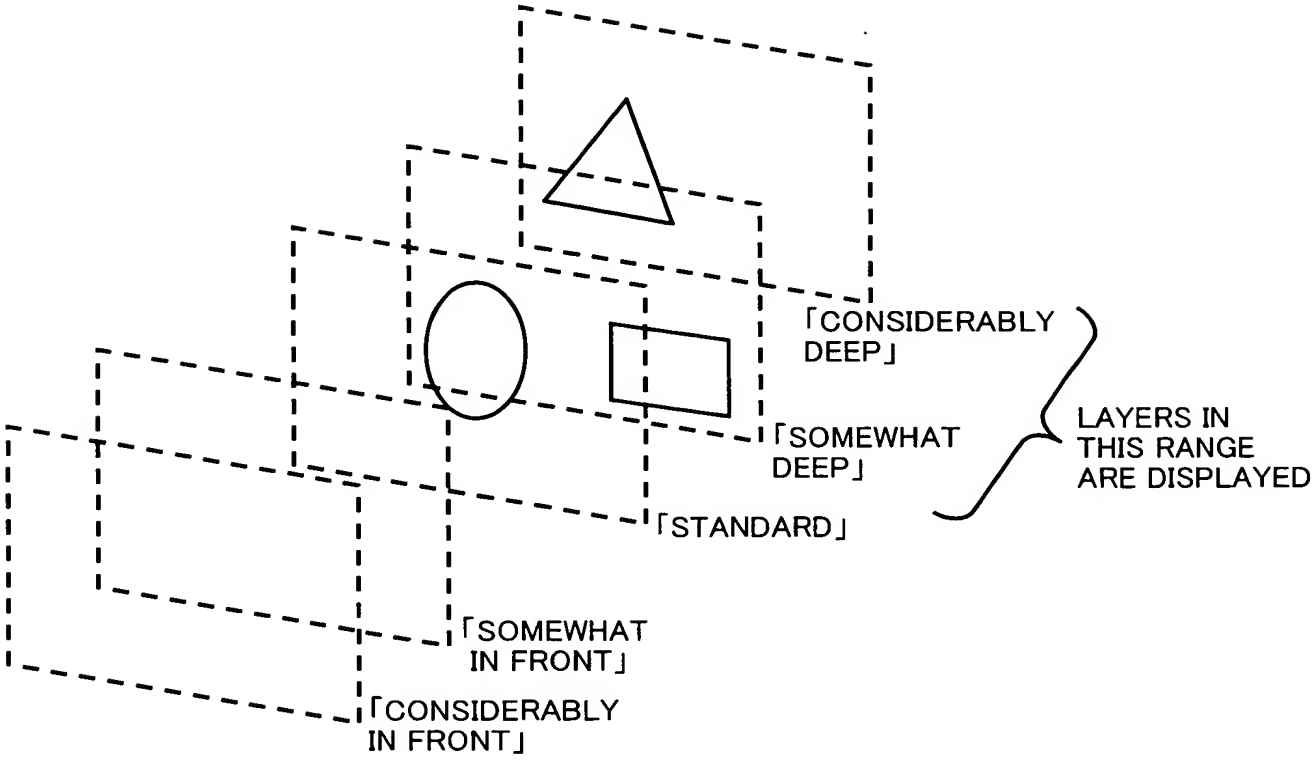

「CONSIDERABLY DEEP」
「SOMEWHAT DEEP」
「STANDARD」
「SOMEWHAT IN FRONT」
「CONSIDERABLY IN FRONT」
LAYERS IN THIS RANGE ARE DISPLAYED

FIG.14

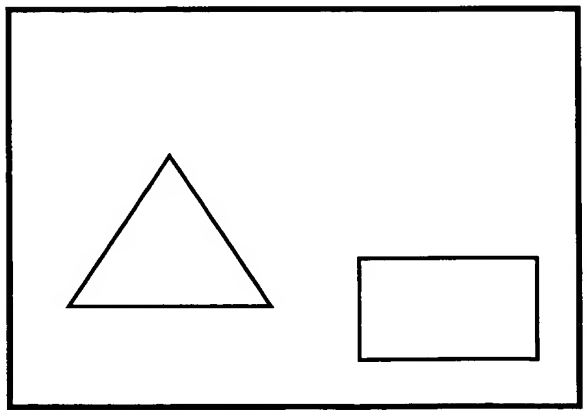


FIG.15

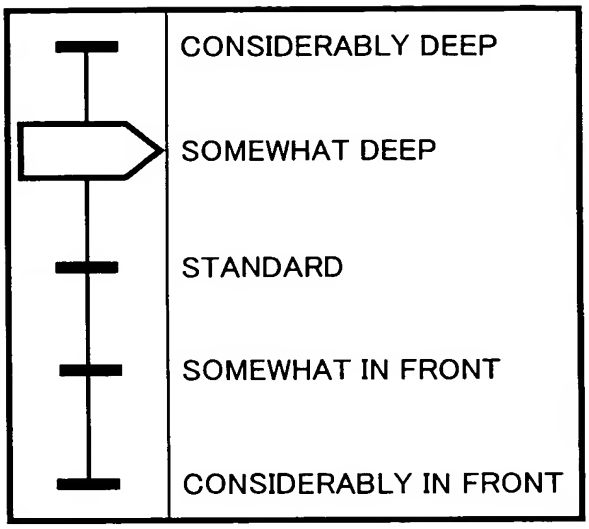

CONSIDERABLY DEEP
SOMEWHAT DEEP
STANDARD
SOMEWHAT IN FRONT
CONSIDERABLY IN FRONT

FIG.16

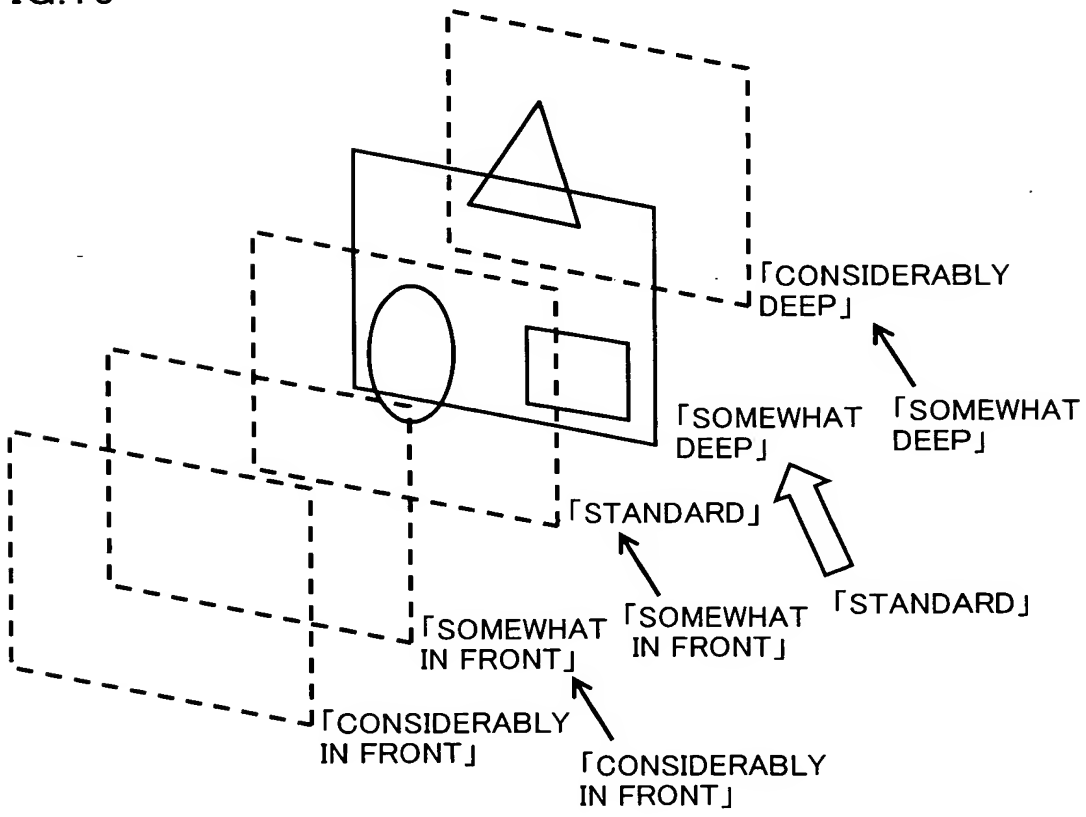

「CONSIDERABLY DEEP」
「SOMEWHAT DEEP」
「SOMEWHAT DEEP」
「STANDARD」
「STANDARD」
「SOMEWHAT IN FRONT」
「SOMEWHAT IN FRONT」
「CONSIDERABLY IN FRONT」
「CONSIDERABLY IN FRONT」

FIG.17

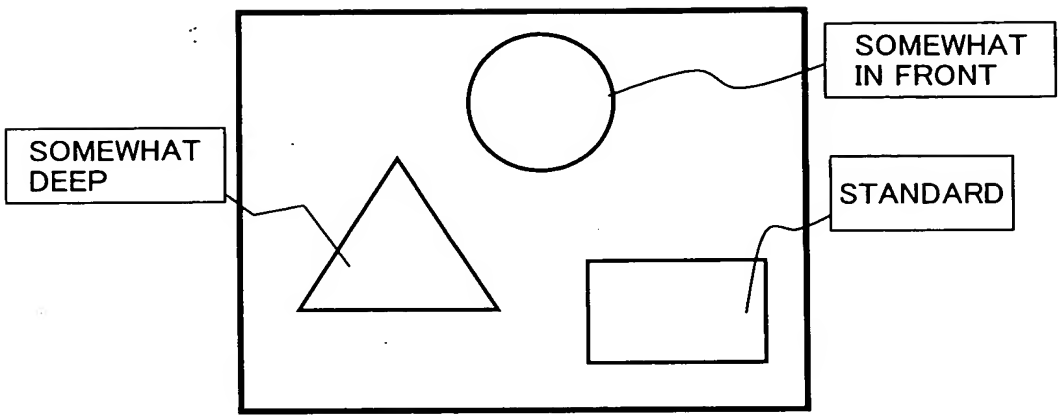

SOMEWHAT IN FRONT
SOMEWHAT DEEP
STANDARD

FIG.18

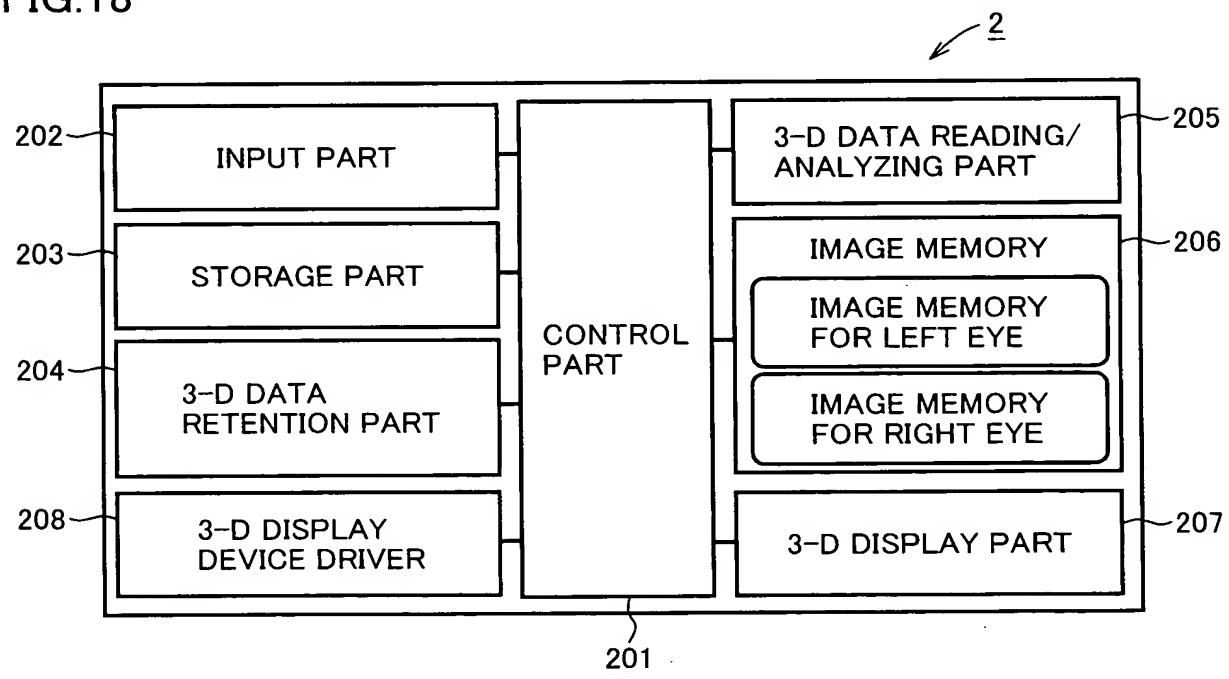

2
202
INPUT PART
203
STORAGE PART
204
3-D DATA RETENTION PART
208
3-D DISPLAY DEVICE DRIVER
CONTROL PART
201
205
3-D DATA READING/ ANALYZING PART
206
IMAGE MEMORY
IMAGE MEMORY FOR LEFT EYE
IMAGE MEMORY FOR RIGHT EYE
207
3-D DISPLAY PART

FIG.19

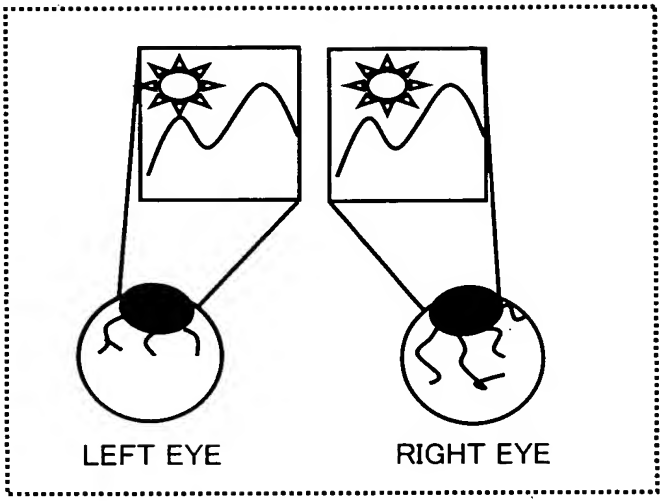


FIG.20A

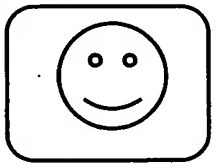


FIG.20B

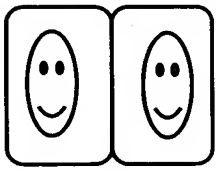


FIG.21

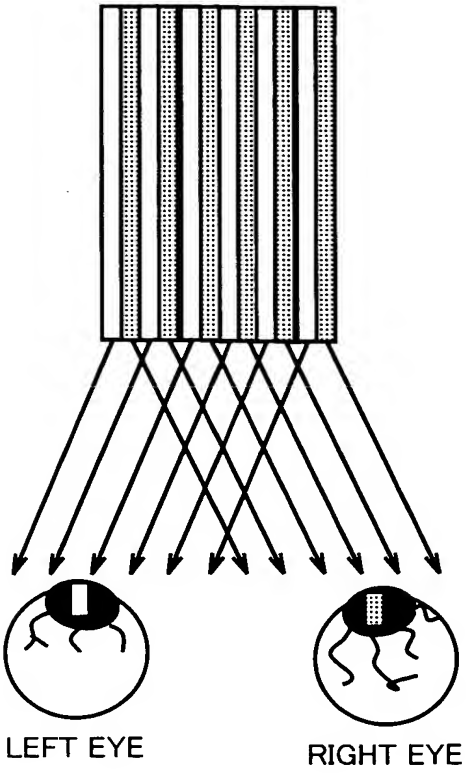


FIG.22

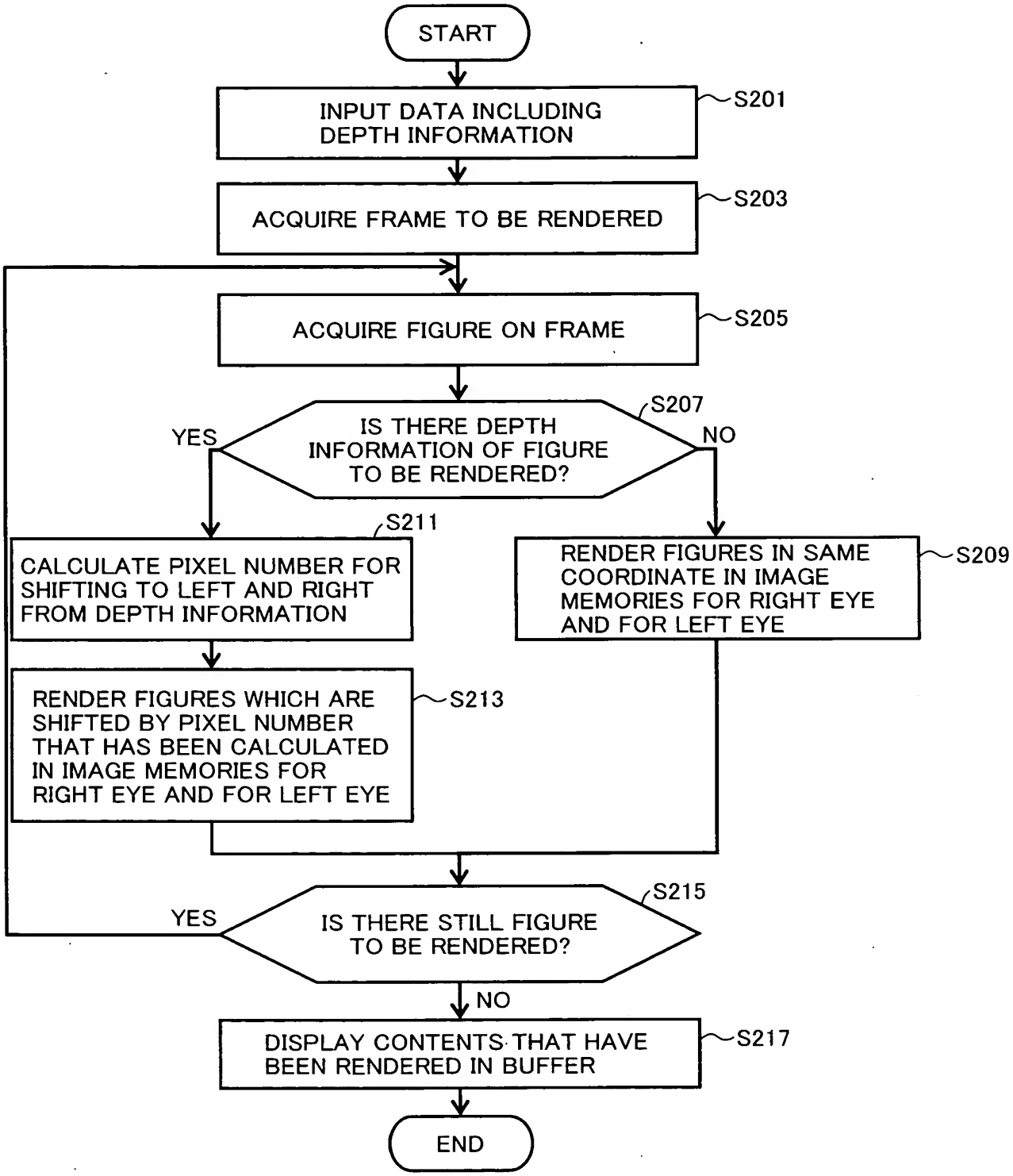

START
INPUT DATA INCLUDING DEPTH INFORMATION
S201
ACQUIRE FRAME TO BE RENDERED
S203
ACQUIRE FIGURE ON FRAME
S205
IS THERE DEPTH INFORMATION OF FIGURE TO BE RENDERED?
S207
YES
NO
CALCULATE PIXEL NUMBER FOR SHIFTING TO LEFT AND RIGHT FROM DEPTH INFORMATION
S211
RENDER FIGURES IN SAME COORDINATE IN IMAGE MEMORIES FOR RIGHT EYE AND FOR LEFT EYE
S209
RENDER FIGURES WHICH ARE SHIFTED BY PIXEL NUMBER THAT HAS BEEN CALCULATED IN IMAGE MEMORIES FOR RIGHT EYE AND FOR LEFT EYE
S213
IS THERE STILL FIGURE TO BE RENDERED?
S215
YES
NO
DISPLAY CONTENTS THAT HAVE BEEN RENDERED IN BUFFER
S217
END

FIG.23

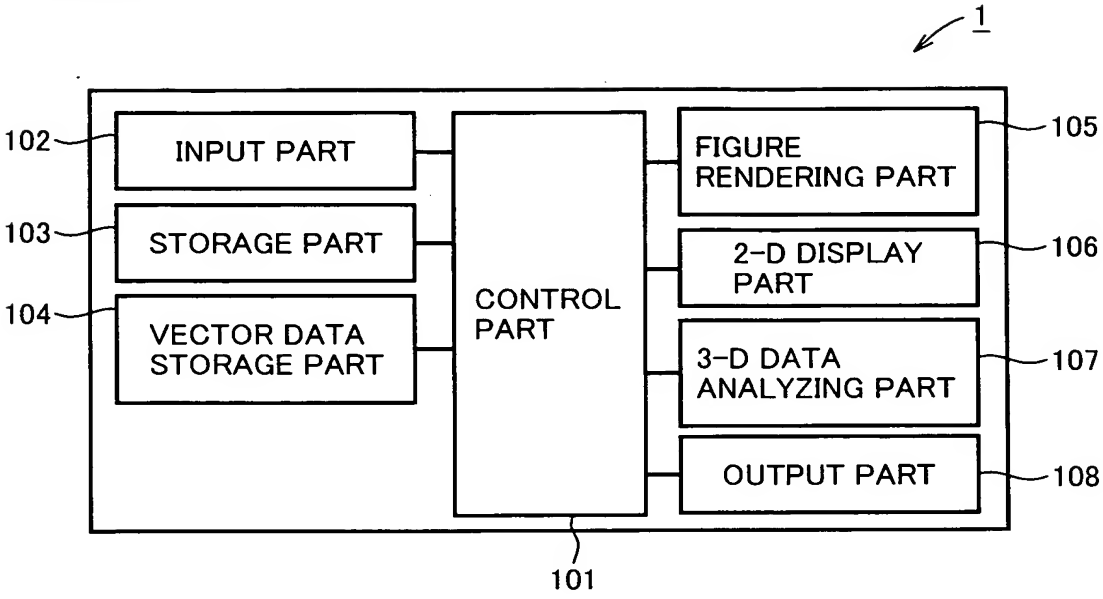

1
102
INPUT PART
103
STORAGE PART
104
VECTOR DATA STORAGE PART
CONTROL PART
101
FIGURE RENDERING PART
105
2-D DISPLAY PART
106
3-D DATA ANALYZING PART
107
OUTPUT PART
108

FIG.24

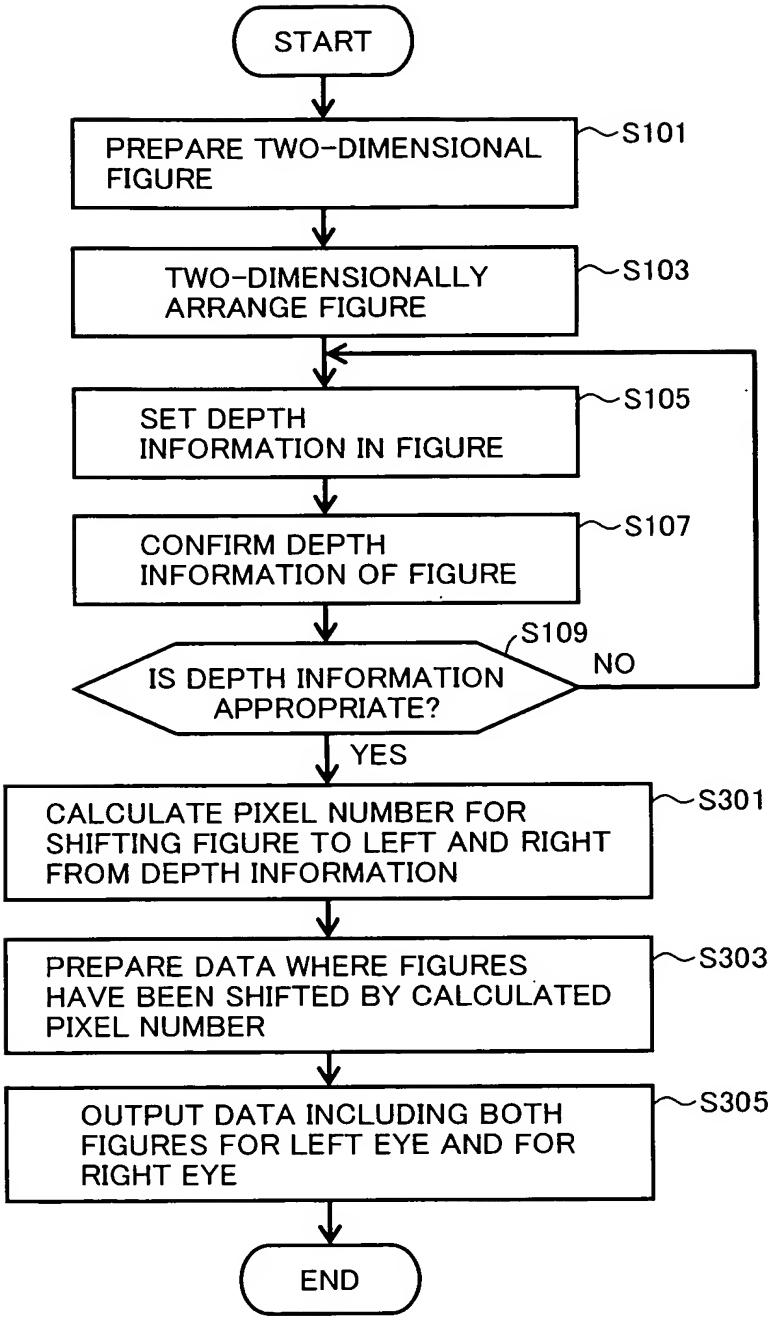

START
PREPARE TWO-DIMENSIONAL FIGURE
S101
TWO-DIMENSIONALLY ARRANGE FIGURE
S103
SET DEPTH INFORMATION IN FIGURE
S105
CONFIRM DEPTH INFORMATION OF FIGURE
S107
IS DEPTH INFORMATION APPROPRIATE?
S109
NO
YES
CALCULATE PIXEL NUMBER FOR SHIFTING FIGURE TO LEFT AND RIGHT FROM DEPTH INFORMATION
S301
PREPARE DATA WHERE FIGURES HAVE BEEN SHIFTED BY CALCULATED PIXEL NUMBER
S303
OUTPUT DATA INCLUDING BOTH FIGURES FOR LEFT EYE AND FOR RIGHT EYE
S305
END

FIG.25

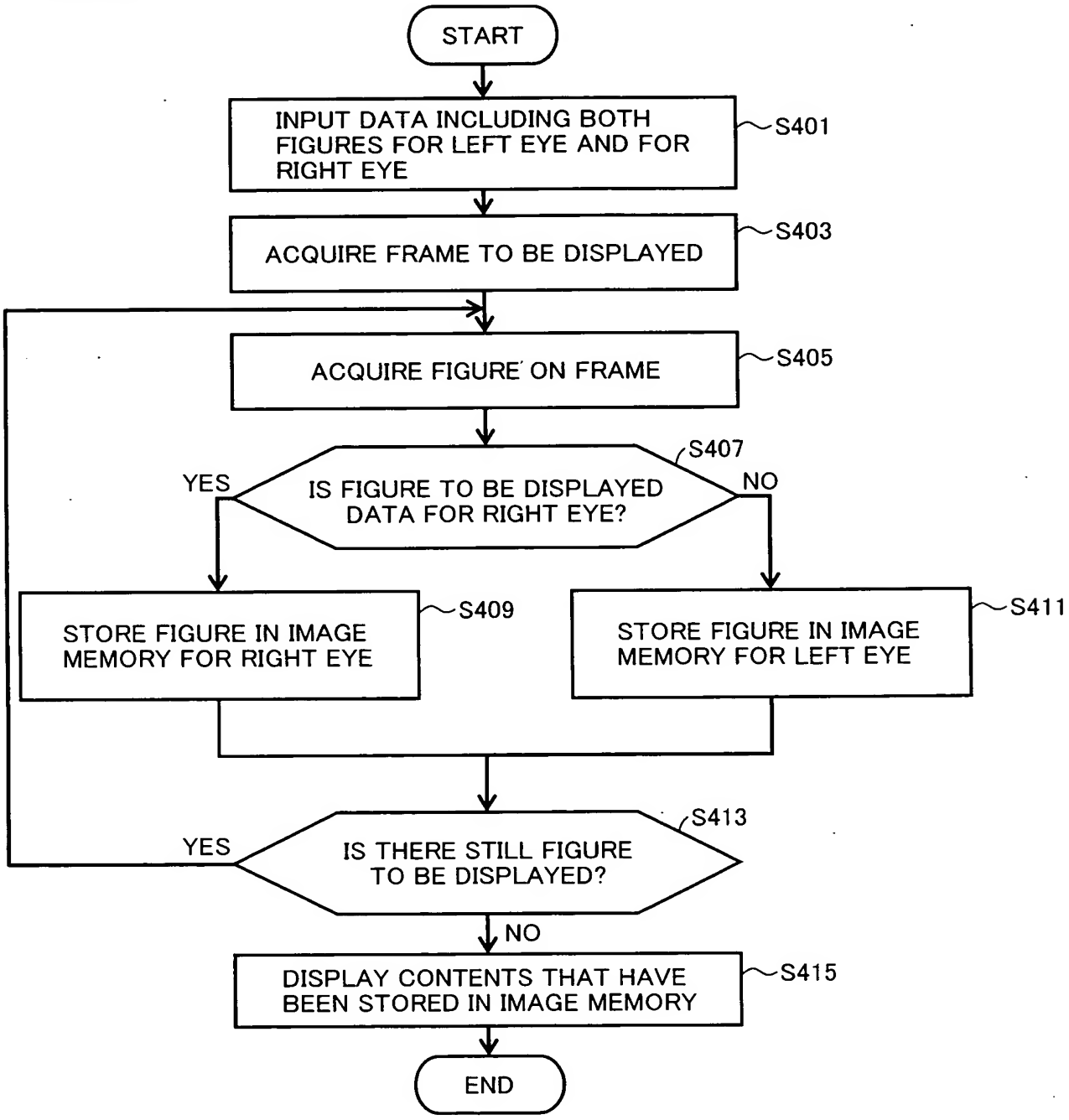

START
INPUT DATA INCLUDING BOTH FIGURES FOR LEFT EYE AND FOR RIGHT EYE
S401
ACQUIRE FRAME TO BE DISPLAYED
S403
ACQUIRE FIGURE ON FRAME
S405
IS FIGURE TO BE DISPLAYED DATA FOR RIGHT EYE?
S407
YES
NO
STORE FIGURE IN IMAGE MEMORY FOR RIGHT EYE
S409
STORE FIGURE IN IMAGE MEMORY FOR LEFT EYE
S411
IS THERE STILL FIGURE TO BE DISPLAYED?
S413
YES
NO
DISPLAY CONTENTS THAT HAVE BEEN STORED IN IMAGE MEMORY
S415
END

FIG.26

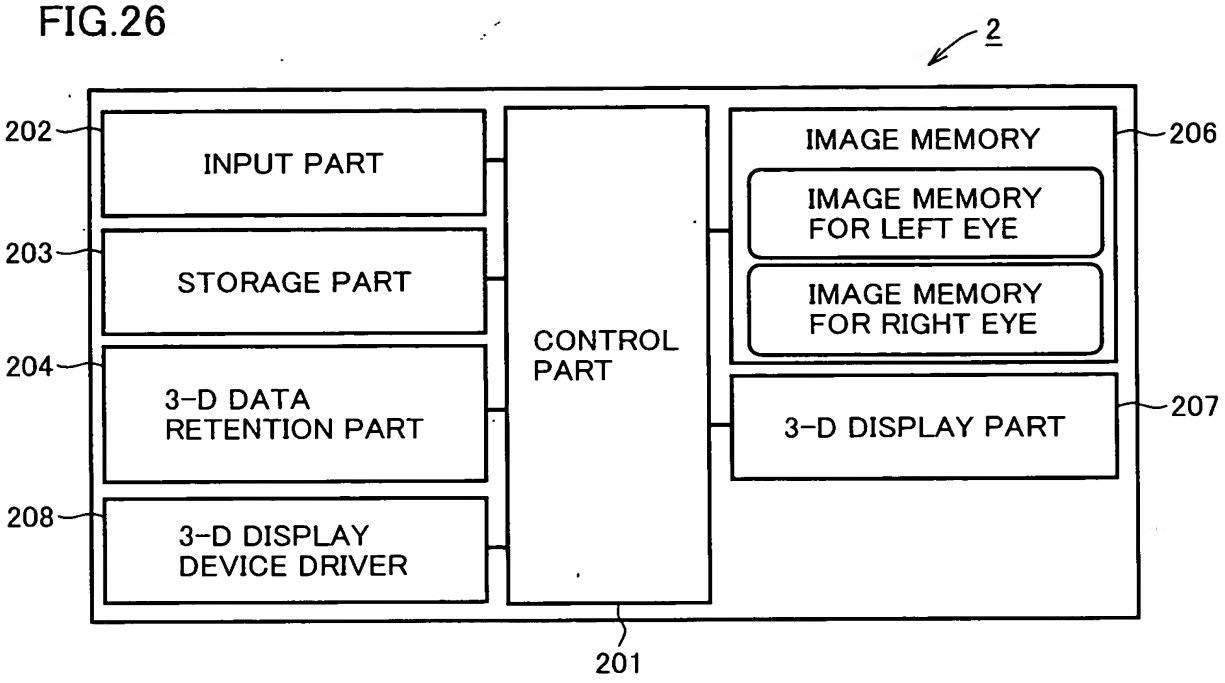

2
202
INPUT PART
203
STORAGE PART
204
3-D DATA RETENTION PART
208
3-D DISPLAY DEVICE DRIVER
CONTROL PART
201
IMAGE MEMORY
206
IMAGE MEMORY FOR LEFT EYE
IMAGE MEMORY FOR RIGHT EYE
3-D DISPLAY PART
207

FIG.27

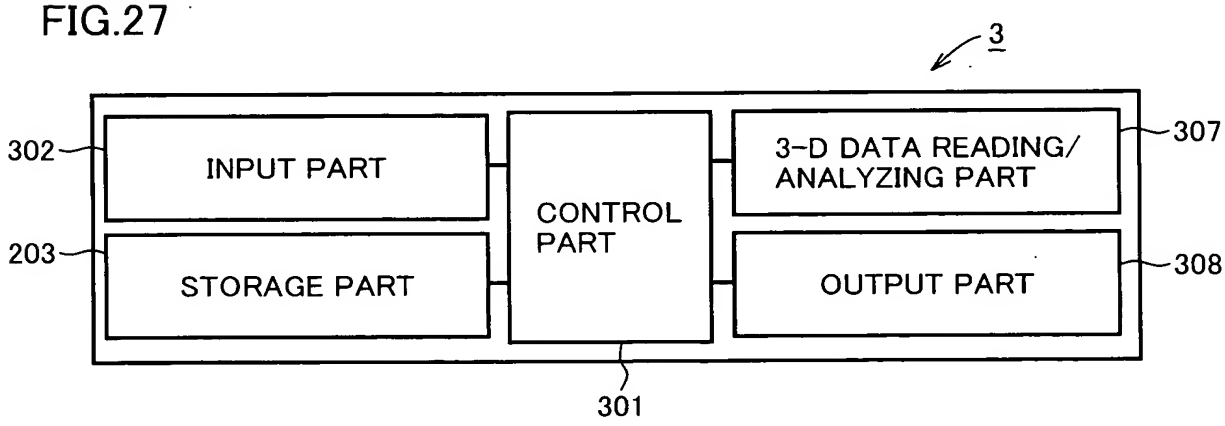

3
302
INPUT PART
203
STORAGE PART
CONTROL PART
301
3-D DATA READING/ ANALYZING PART
307
OUTPUT PART
308

FIG.28

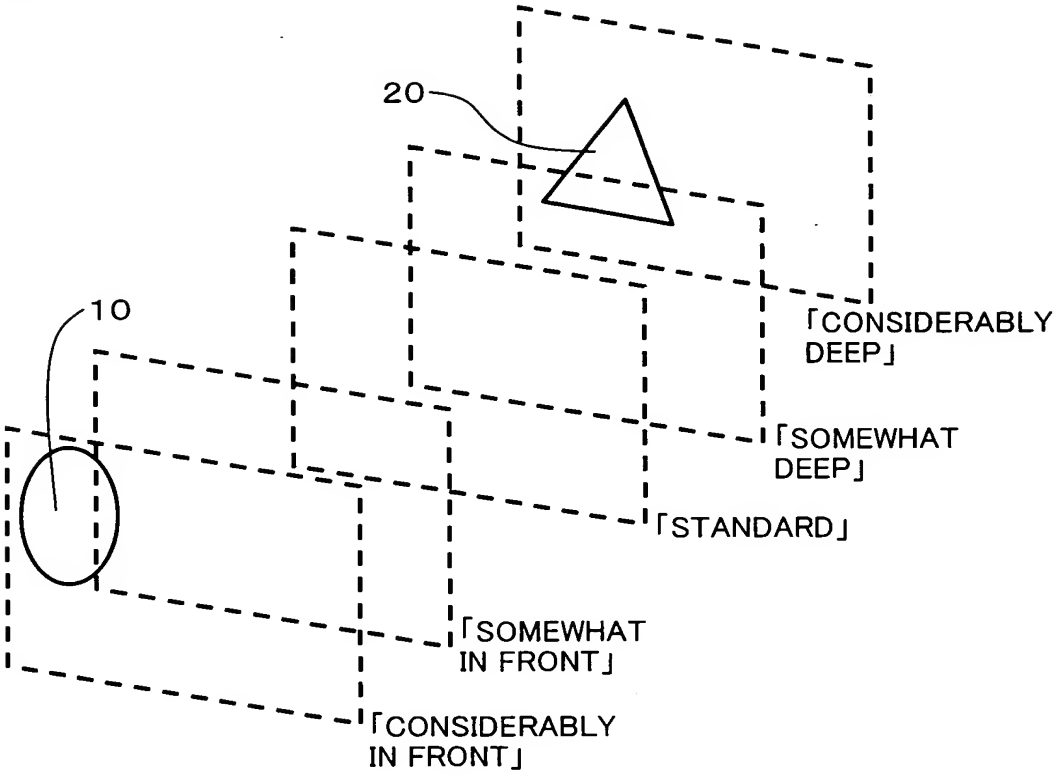

20
10
「CONSIDERABLY DEEP」
「SOMEWHAT DEEP」
「STANDARD」
「SOMEWHAT IN FRONT」
「CONSIDERABLY IN FRONT」

FIG.29

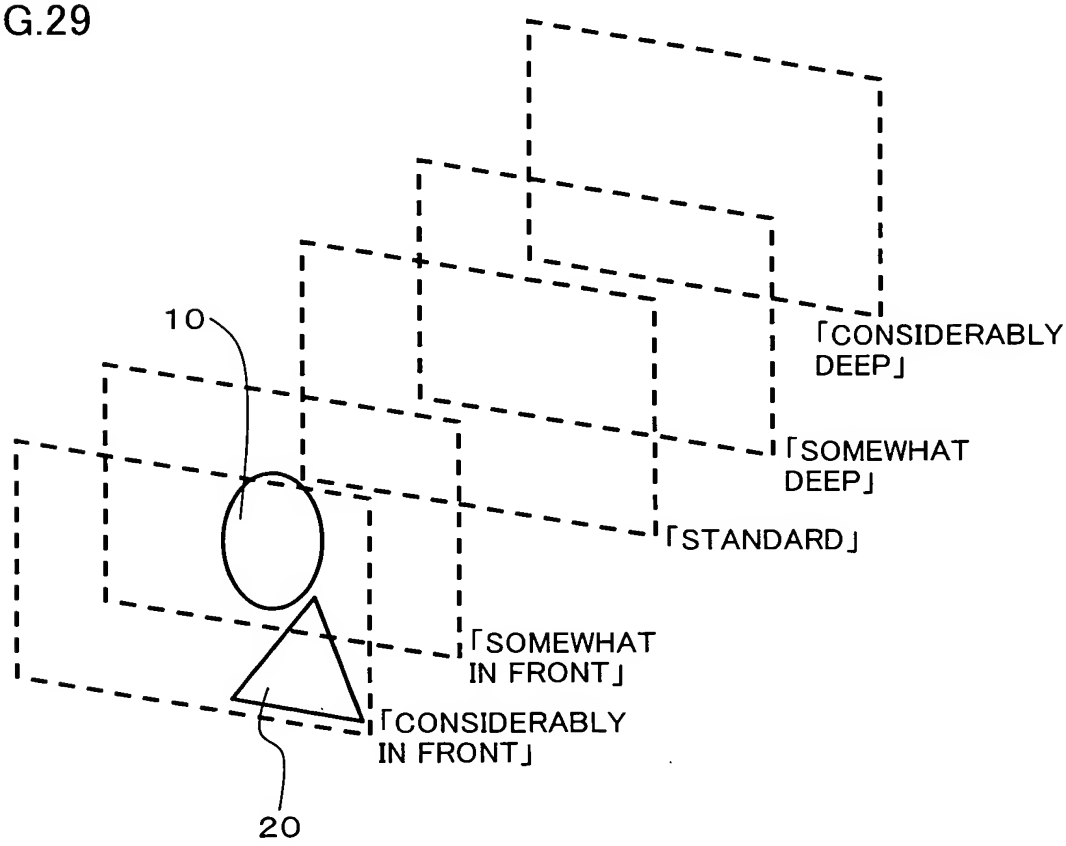
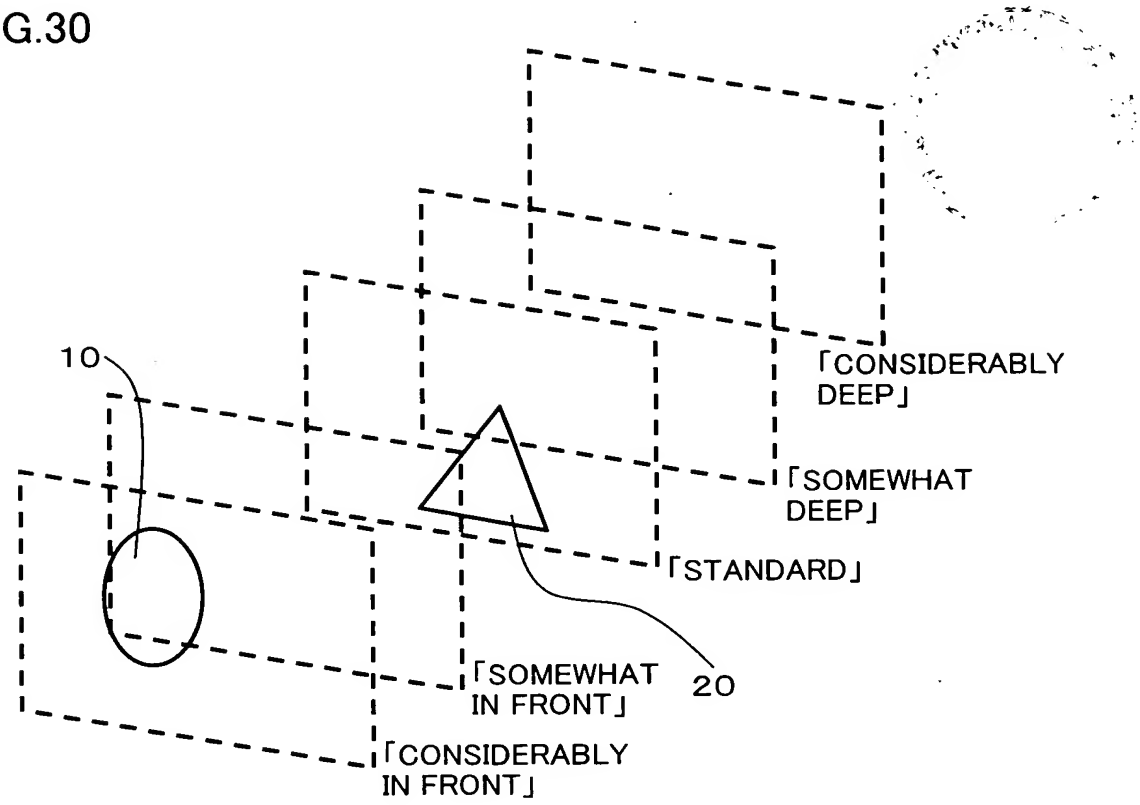

10
「CONSIDERABLY DEEP」
「SOMEWHAT DEEP」
「STANDARD」
「SOMEWHAT IN FRONT」
「CONSIDERABLY IN FRONT」
20

FIG.30


10
「CONSIDERABLY DEEP」
「SOMEWHAT DEEP」
「STANDARD」
20
「SOMEWHAT IN FRONT」
「CONSIDERABLY IN FRONT」